

National Aeronautics and  
Space Administration



# EXPLORE SCIENCE

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# Planetary Science Division - ROSES 19

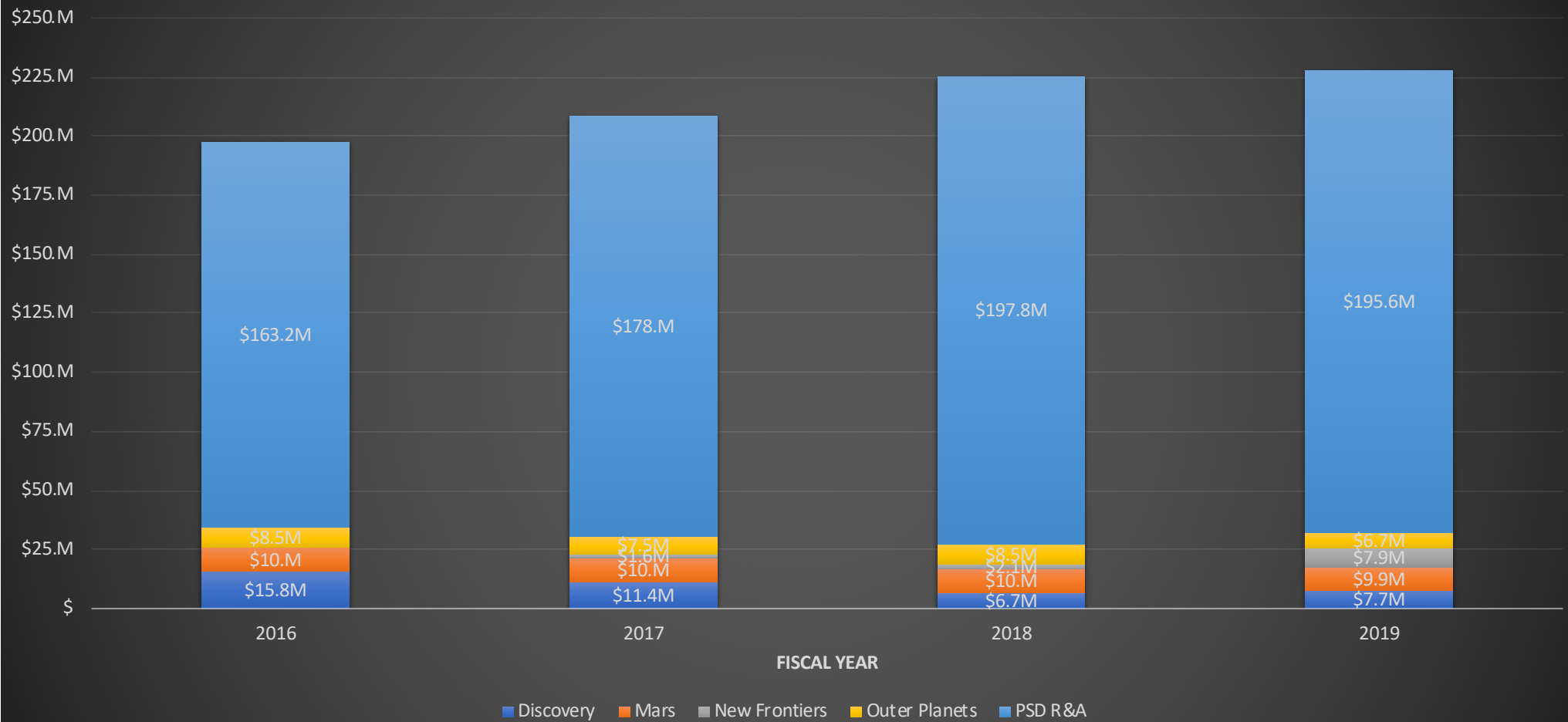
ROSES 19 - Program Name	Step-1 Due Date	Step-2 Due Date	Panels Held	Selections/Proposals	Selection Dates	Days from Step-2 to Select
Exoplanets (XRP)	Solicited through ROSES 18 Amendment					
Planetary Protection Research (PPR)	Not Solicited					
Emerging Worlds (EW)	04/16/2019	06/12/2019	Yes	20/100 (20%)	11/04	145
Development & Advance of Lunar Instruments (DALI)	04/16/2019	06/12/2019	Yes	5/44 (11%)	11/14	155
Solar System Obs. (SSO)	04/16/2019	06/12/2019	Yes	9/49 (18%)	1/21	223
MatISSE	Not Solicited					
Laboratory Analysis of Returned Sample (LARS)	04/24/2019	06/25/2019	Yes	7/23 (30%)	12/06	164
Planetary Data Archiving, Restoration, Tools (PDART)	05/09/2019	07/11/2019	Yes	17/112 (15%)	11/12	124
Exobiology (EXOB)	05/13/2019	06/12/2019	Yes	17/159 (11%)	11/25	166
Cassini Data Analysis (CDAP)	05/16/2019	07/18/2019	Yes	17/61 (28%)	11/15	120
New Frontiers Data Analysis Program (NFDAP)	05/30/2019	08/01/2019	Yes	11/27 (41%)	11/15	106
Planetary Science and Technology Through Analog Research (PSTAR)	07/25/2019	10/10/2019	Yes	XX/48	TBD	
Planetary Major Equipment/Facilities (PMEF)	08/20/2019	10/22/2019	No	TBD	TBD	
Mars Data Analysis (MDAP)	08/22/2019	10/24/2019	Yes	XX/101	TBD	
Discovery Data Analysis (DDAP)	08/29/2019	11/01/2019	Yes	XX/43	TBD	
PICASSO	09/20/2019	11/20/2019	Yes	XX/97	TBD	
Early Career Award (C.19)	N/A	12/02/2019	Yes	XX/35	TBD	
Habitable Worlds (HW)	11/15/2019	01/17/2020	No	XX/65	TBD	
Solar System Workings (SSW)	11/22/2019	02/06/2020	No	TBD	TBD	
Lunar Data Analysis (LDAP)	11/26/2019	02/27/2020	No	TBD	TBD	



# Planetary Science Division - ROSES 20

- Full list of appendices for ROSES20 available online on NSPIRES
  - Due dates for programs similar to last year.
- Changes for ROSES20
  - C.21 Double Asteroid Redirection Test (DART) – PSP
  - C.22 Radioisotope Power Systems Enabling Missions with Research and Technology (REMBRandT)
    - Step-1: 4/8/20
    - Step-2: 6/10/20
  - C.24 Yearly Opportunities for Research in Planetary Defense (YORPD)
  - C.25 Mars Organic Molecule Analyser (MOMA) – PSP
  - E.7 Support for Open Source Tools, Frameworks, and Libraries
  - E.8 Supplemental Open Source Software Awards

# Overview of Research Programs Budgets – the Simple Story





# Facilities

(2019)

- Valuable recommendations made, absent budgetary considerations
- Only examined a subset of PSD-relevant facilities
- We are exploring ways to provide support for PSD-relevant facilities:
  - Enable development and upgrades of valuable facilities
  - Ensure support for the community
  - Provide effective oversight

The Plan for Facilities (caveat: this is in development). Have two calls:

- PME
- Planetary Facilities

These would replace current PMEF

PME:  
Every year  
\$1M/year  
only with associated  
awards.

Facilities:  
Every other year  
~\$5M for new awards –  
community impact a  
merit factor.



# Facilities: Planetary Major Equipment

## Planetary Major Equipment

PME:  
Every year  
\$1M/year  
only with associated  
awards.

- Much like the current PMEF program, but...
- 1-2 year efforts, total funding for all years of all awards of ~\$1M/year
- No hard cap on cost
  - Soft cap from the size of the program
- Only with associated awards; no augmentations



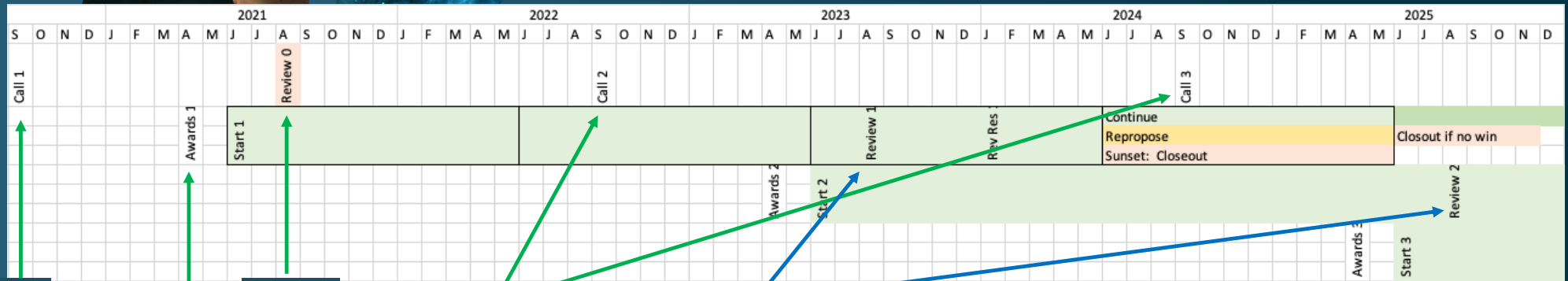


# Facilities: Planetary Facilities

Facilities:  
Every other year  
~\$5M for new awards –  
community impact a  
merit factor.

- Every 2 years, with ~\$5M available for year 1 of new awards.
- Supports proposals to either:
  - Operate/maintain/upgrade existing facilities
  - Establish and support new facilities
- Provide up to 4 years of support
- Cooperative agreements or NASA Centers only
- **Must** provide community access
  - Minimum 25% (TBD)
  - Peer review would evaluate plan for such access
- All funded facilities reviewed in year 3 of the effort
- Efforts are renewable for up to 4 more years, depending on feedback from the review.

# Facilities: The Plan Forward



First call: 9/20

Awards made: 4/21

Review of existing Facilities  
(Review 0)

- Calls every 2 years; reviews every 2 years (~half way between calls)
- Reviews would be similar to a Senior Review
- Three outcomes from reviews:
  - Continue (renew for additional years)
  - Repropose (continue for fourth year while the team repropose; if unsuccessful with the proposal, provide closeout funding.
  - Sunset (closeout the effort during year 4)
- We anticipate that the program would ramp up to \$10M/year relatively quickly, perhaps growing as large as \$15M eventually.
- There are still **many** details to sort out





# Lunar Samples: History

## History:

- Gray area between EW and SSW for these proposals has made it hard to justify relevance
- Concerns about negative effect gray area had on research being proposed, for example, people being forced to split up projects or otherwise contort their research in order to make it fit in one call or the other
- Concerns about people repurposing proposals and submitting the same proposal to both calls
- Proposals in SSW have been sent to EW to take advantage of reviewers' expertise

Solution had been: Review all proposals together (in EW), and adjust funding levels accordingly in EW and SSW



# Lunar Samples: Now

## Recent History:

- SSW19 received a large enough number of proposals to ensure sufficient depth of reviewer expertise
- We have heard the community's concerns about reducing the number of proposing opportunities

## Solution: Status Quo (almost)

- For now, we will abandon idea of sending all lunar sample proposals to EW
- Submit your proposal to the call you think is most appropriate and justify it. This will not affect your merit score.
- However, you will not be allowed to submit substantially similar proposals to both SSW and EW in the same ROSES year.





## Gaps RFI (what we received)

NASA SMD is soliciting information on research that is aligned with the agency mission and SMD's Science Plan but falls in a gap between current solicitations, possibly because it is interdisciplinary or interdivisional.

104 responses submitted

~40% NASA Centers, ~25% universities, ~25% science centers/labs, ~10% private sector

Some themes:

- “Earth in context”: Earth / Sun interaction + upper atmosphere, Earth as one of the inner planets, Earth in an exoplanet context, and ancient Earth & habitability.
- Cross-divisional technology, or software & data analysis techniques, or lab-astro
- Interdisciplinary / cross-divisional research submitted previously and not funded



## Gaps RFI (what we're doing)

### Next Steps:

- Each proposal (~40 of interest to PSD) being reviewed and categorized
  - How does research fit within the mission of division / directorate / agency?
  - Can it be submitted within current solicitation as written or does it require modification of language?
  - Are there barriers to acceptance?
- Will present a thorough analysis and recommendations to SMD in a few months.



# Dual-Anonymous Peer Review

- SMD is strongly committed to ensuring that the review of proposals is performed in an equitable and fair manner that reduces the impacts of any unconscious biases.
- Motivated by, and modeled upon, a successful study conducted for the Hubble Space Telescope, SMD is conducting a pilot program in ROSES-2020 to evaluate proposals using dual-anonymous peer review (DAPR).
- In PSD: Habitable Worlds (E.4, Step-1 due 11/17/20)

<https://arxiv.org/pdf/1907.05261.pdf>

<https://physicstoday.scitation.org/doi/10.1063/PT.6.3.20190301a/full/>

- More information at:


<https://science.nasa.gov/researchers/dual-anonymous-peer-review>



A vibrant space-themed background featuring a large blue planet (Earth) at the bottom, a bright yellow sun, and several other celestial bodies including a ringed planet (Saturn), a reddish planet (Mars), and a large blue planet (Jupiter) in the foreground. The background is filled with stars and nebulae.

# Dual-Anonymous Peer Review

- In dual-anonymous peer review, not only are proposers unaware of the identity of the members on the review panel, but the reviewers do not have explicit knowledge of the identities of the proposing team during the scientific evaluation of the proposal.
- Detailed instructions will be posted on the homepage of the program element in NSPIRES on how to anonymize their proposals.
- SMD will hold a series of webinars on the process well in advance of proposal due dates. (We anticipate another webinar prior to the HW Step-1 due date).
- After proposals are evaluated on scientific merit, reviewers will have access to a team qualifications document, in order to provide a final check on the qualifications of the proposing team to carry out the proposed scientific investigation.



## Dual-Anonymous Peer Review (Feedback)

- *“There was a noticeable shift in the depth of discussions as well. It was clear that reviewers had read the proposals very diligently, and that without the distraction of names and institutions, there was no recourse but to focus on the proposed science.” (P. Natarajan, chair of the Cycle 26 TAC)*
- *“Discussions at both the panel level and TAC level focused predominantly on whether the science was novel, impactful, and feasible with HST, and not on whether the proposers had the expertise to carry out the proposals.”*
- *“Several TAC members noted that they felt that the discussions at both the panel and TAC level seemed more collegial and less emotionally charged than previous TACs, perhaps because either positive or negative feelings about the people involved in the proposal were largely removed.” (R. Somerville, chair of Cycle 27 TAC)*